

STUDIES ON NORTH AMERICAN APION:
THE APION BRACHYSPINOSUM GROUP
(COLEOPTERA: CURCULIONIDAE)¹

By D. G. KISSINGER²

This paper continues a series in which the 260 species of *Apion* occurring in North America will be revised. Kissinger (1959a) presents a key to 29 species groups of *Apion* known from North America. Explanation of abbreviations and measurements is given by Kissinger (1957, 1959b).

The two allopatric species belonging to this group occur in eastern United States, Mexico and Guatemala (see figure 2). Nothing is known concerning host plants of the species.

The secondary sexual modifications of the male are distinctive: tibiae 1-3 mucronate (mucro on tibia 1 may be minute) and sternite 1 with mediobasal tubercle. Other characteristics of the group are as follows: prothorax lacking distinct basal lateral expansion; little sexual dimorphism in structure of beak, dorsal margin of scrobe not strongly angulate (a trifle prominent near middle), frons wider than tip of beak in dorsal view, and in lateral view longitudinal dimension of eye somewhat greater than transverse diameter; tarsal segment 1 longer than segment 2; femur and tibia (in part at least) and base of antenna reddish or pale yellow; elytra aeneous; and pubescence white, conspicuous, dense on sides of mesothorax and metepisternum.

The following two species are very similar; a comparative statement of distinguishing characteristics is given in the treatment of *A. brachyspinosum* Wagner.

Apion roseae Kissinger, NEW NAME

FIGS. 4 and 6

Apion aeneipenne Smith, 1884, Trans. American Ent. Soc. 11: 61, *nec* Pascoe, 1883, Ann. Mag. Nat. Hist. (5) 11: 122.

Apion smithi Wagner, 1909, Deutsche Ent. Zeitschr., p. 767 [New name for *A. aeneipenne* Smith *nec* Pascoe], *nec* Scudder, 1893, Monog. United States Geol. Sur. 21: 81.

Length: 2.25 to 2.50 mm.; width: 1.00 to 1.12 mm.

I am pleased to rename this species in honor of Rose Ella Warner, a friend who has been patient and generous in sharing her knowledge of weevil taxonomy.

Distribution: ALABAMA: Chambers Co., 15 VII 52 (ELS); 5 miles northwest Huntsville, 9 IX 59, D. G. Kissinger (DGK). DISTRICT OF COLUMBIA: no further data (USNM). ILLINOIS: Seymour, M. W. Sanderson (CAF in MCZ). INDIANA: Perry and Wayne counties (Blatchley and Leng, 1916, p. 77). LOUISIANA: Opelousas, 15 IV,

¹ Study aided by grant G19,600 from National Science Foundation.

² Atlantic Union College, South Lancaster, Mass.

H. W. Wenzel (Knull). MARYLAND: Takoma Park, 1 VI 51, D. G. Kissinger (DGK). MISSISSIPPI: no further data (TLCC). MISSOURI: St. Louis, 1 VI, Liebeck (MCZ). OHIO: Hocking Co., 3 VI, N. J. and E. L. Sleeper (ELS); Scioto Co., 22 V and 11 VI, N. J. and E. L. Sleeper (ELS). SOUTH CAROLINA: Aiken, 31 V 57, H. F. Howden (Howden). TENNESSEE: "Elmwood," J. Coase (CAS); Green Briar Cove, Great Smoky Nat. Park, 18 V 57, H. and A. Howden (Howden).

Apion brachyspinosum Wagner

FIGS. 3 and 5

Apion brachyspinosum Wagner, 1912, Arch. Naturg. 78, Abt. A., Heft 2: 120.

Length: 2.00 to 2.18 mm.; width: 0.88 to 0.99 mm.

I am indebted to Mr. R. T. Thompson for sending a male specimen of this species determined by Wagner and labeled "Chacoj, Vera Paz, Champion," Guatemala. This specimen apparently lacks the tubercle at the base of sternite 1, but it has femur 2 stouter than femur 1, which condition is not apparent in Mexican specimens and in *A. roseae*. Additional specimens from Guatemala may reveal the significance of this variation. The elytral vestiture of this specimen is more similar to that seen in *roseae* than to Mexican individuals, but the vestiture on the lateral pro, meso and meta thorax and abdominal sternites is as seen in the Mexican population. In lateral view the prothorax of this individual is quite convex, much as in *roseae*.

I hereby designate as lectotype of *brachyspinosum* the specimen labeled type, "Cahabon, Vera Paz," in the British Museum (N.H.).

Distribution: *GUATEMALA*: VERA PAZ: Cahabon; "Chacoj." *MEXICO*: Mexico: 37 miles south east Mexico City, 15 III 1953, D. G. Kissinger (DGK); Temescaltepec, 20 V to 4 VI 1933, H. E. Hinton & R. L. Usinger (CAS). *MICHOACAN*: 20 miles east Morelia, 7 III 1953, D. G. Kissinger (DGK). *MORELOS*: Cuernavaca: June, Fenyés Colln. (CAS). *PUEBLA*: 35 miles south Puebla, 25 II 1953, D. G. Kissinger (DGK).

Comparing the two species, *brachyspinosum* and *roseae*, side by side they seem quite different, but the differences are hard to describe. *A. brachyspinosum* tends to have legs that are light yellow while the legs of *A. roseae* are reddish to piceous. *A. brachyspinosum* is smaller in size than *A. roseae* as indicated by the dimensions of the prothorax on Figure 1

FIGURE 1—A comparison of width to length of the pronotum of *Apion brachyspinosum* Wagner and *Apion roseae* Kissinger. The number of individuals having identical measurements is indicated by a figure and an arrow. FIGURE 2—Distribution of *Apion brachyspinosum* Wagner and *Apion roseae* Kissinger. Species code is same as used in figure 1. FIGURE 3—Dorsal view of prothorax of *Apion brachyspinosum* Wagner; inset is diagram of punctation and scales in that region at same scale. FIGURE 4—Same of *Apion roseae* Kissinger. FIGURE 5—*Apion brachyspinosum* Wagner: Diagram of base of left elytral intervals 1-3 showing nature of scales; scutellum included. FIGURE 6—Same of *Apion roseae* Kissinger.

and by the range of length and width cited for the species. The prothorax of *brachyspinosum* is only slightly wider than long, in dorsal view the sides at basal third are hardly broader than the base, and in side view the dorsal surface is flatter, while in *roseae* the prothorax tends to be broader, in dorsal view the sides at basal third are obviously broader than the base, and in side view the dorsal surface is more convex. The pronotum of *brachyspinosum* has shallow punctures and on the central part has long, fine scales ranging about 0.04-0.06 mm. long, the elytral scales tend to be coarser, and the sternites laterally are clothed with comparatively longer, coarser pubescence; in *roseae* the pronotum has deeper punctures and on the central part longer, fine scales about 0.03 mm. long, the elytral scales tend to be finer, and the sternites laterally have sparse, finer pubescence. The beak of the male of *brachyspinosum* is quite polished distad of the insertion of the antenna, while in *roseae* it is more strongly alutaceous here.

LITERATURE CITED

KISSINGER, D. G.

1957. Studies on North American *Apion* with descriptions of two new species (Curculionidae). *Coleopt. Bull.* 11: 17-24.
 1959a. The species groups of *Apion* occurring in North and Central America (Curculionidae). *Coleopt. Bull.* 13: 13: 21-32.
 1959b. Revision of the *Apion* subgenus *Trichapion* Wagner in the New World (Curculionidae). *Proc. United States Nat. Mus.* 110: 247-389.



BOOK REVIEW

THE TAXONOMY AND SPECIATION OF PSEUDOPHONUS (A SUBGENUS OF HARPALUS: HARPALINI: CARABIDAE, KNOWN TO OCCUR IN NORTH AMERICA), by George E. Ball and Joseph N. Anderson. *Studies on Speciation* No. 1, xi and 94 pp., 38 figs., 18 tables, 1 pl., 1962. (Price \$3.95)

"Many generalizations have been made about the species problem; in comparison, relatively little has been made about the problem species." So say the authors in their preface. This taxonomic revision has more than its share of problem species. But the authors have not dismissed those problems with a few words; rather they have accentuated them by grouping them in a separate chapter. Many measurements, dissections, and extensive comparisons were made in hope of resolving the problems. These efforts were fruitful and form the basis for the classification, but the authors readily admit to being completely stymied in a few instances.

The organization of this study is such that almost any chapter can be read separately and understood. Only half the book is taken up with descriptions of species. A key is given to the 12 species. The short chapter on zoogeography attempts to explain present distributions; most of it concerns Pleistocene glaciation's probable effect on the beetles. The study is loaded with tables, all easily understood, making analysis of comparative data and measurements much easier to use than if it were buried in text.

Only two faults come to mind: the pie-graph method of showing distribution on maps is not effective with so much photographic reduction, and the plates are poorly designed in that the figures extend to the edge of the page. Those are minor troubles. I like this book. It is a small, hard-back book, approximately 5 by 7½ inches, and was published on December 27, 1962.

STUDIES ON SPECIATION is a new series of monographs to contain results of studies directed toward understanding the mechanisms and factors affecting the evolution of populations of organisms. The series is published by the Catholic University of America Press, under the auspices of the Institute for the Study of Natural Species at the Catholic University of America. The Institute, directed by Ross H. Arnett, Jr., is a relatively new organization, providing research, training, and publication. It has facilities for the study of organisms in the field.—T. J. SPILMAN